

Abstract

A miniaturised device for producing high pressure in a fluid imposes stringent requirements on the manufacturing process.

The device according to the invention consists of a hollow piston displaceably mounted in a cylinder and a valve member which is guided by the hollow piston and mounted so as to be axially movable relative to the hollow piston. The valve member is arranged at one end of the hollow piston inside or immediately in front of the end of the hollow piston.

The device is used in a mechanically operated high pressure atomiser. This consists of a two part housing which comprises a pump housing with nozzle, a blocking mechanism, a spring housing with spring, a non-pressurised storage container for the fluid and a mechanical counter integrated in the spring housing.

The valve operates without any auxiliary force, closes very rapidly and is sealed tight against high pressure. The atomiser is safe and simple to operate and environmentally friendly. The fluid is metered extremely accurately.

The atomiser is used, for example, to produce an inhalable aerosol of a liquid medicament without the use of propellant gas, at 320 bar, for example.